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09/835,991	04/16/2001	Robert A. Unger	50P4318.01	6030												
7590 Jonathan O Owens Haverstock & Owens LLP 162 North Wolfe Road Sunnyvale, CA 94086		01/11/2008	<table border="1"><tr><td colspan="2">EXAMINER</td></tr><tr><td colspan="2">LONSBERRY, HUNTER B</td></tr><tr><td>ART UNIT</td><td>PAPER NUMBER</td></tr><tr><td>2623</td><td></td></tr><tr><td>MAIL DATE</td><td>DELIVERY MODE</td></tr><tr><td>01/11/2008</td><td>PAPER</td></tr></table>		EXAMINER		LONSBERRY, HUNTER B		ART UNIT	PAPER NUMBER	2623		MAIL DATE	DELIVERY MODE	01/11/2008	PAPER
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/835,991
Filing Date: April 16, 2001
Appellant(s): UNGER, ROBERT A.

Jonathan O. Owens
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/11/07 appealing from the Office action
mailed 12/29/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,658,231	Nakatsuyama	12-2003
6,271,893	Kawaguchi	8-2001

6,690,655	Miner	2-2004
6,054,981	Kimoto	4-2000
2002/0073423	Krakiran	6-2002

Official Notice that a user interface device comprising an infrared receiver is well known in the art and supported by 6,177,931 to Alexander.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-2, 4-9, 11,13-15**, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,658,231 to Nakatsuyama in view of U.S. Patent 6,271,893 to Kawaguchi and U.S. Patent 6,990,655 to Miner.

Regarding claim **1**, Nakatsuyama teaches a broadcast receiver comprising: a power supply having a power-supply output terminal (See Fig. 6 Power System 276 and Col. 13 lines 45-50) and a broadcast interface circuit including: an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal

modulated about a selected carrier frequency (See Fig. 6 Tuning system 252 and antenna 253 and Col. 12 lines 60-63. It is inherent that program data signals received by the antenna and the tuner must be modulated about a selected carrier frequency); a tuner having a tuner input terminal coupled to the interface circuit input terminal, wherein the tuner selects one of the signals and provides the selected signal on a tuner output terminal (See Fig. 6 Antenna 253 and Tuner System 252 See Col. 12 lines 57-67 Tuners by definition are adapted to select one of a plurality of broadcast signals and provide the selected signal to the output terminal. In this case the selected signal is the index signal); a wake-up sensor having a wake-up sensor input terminal coupled to the interface circuit input terminal and a sensor output terminal, wherein the sensor being adapted to produce a wake-up signal on the sensor output terminal in response to first selected signal (See Fig. 6, Tuning System 252, Logic Unit 250, Antenna 253, and Demodulator 254 and Col. 2 lines 60-65, Col. 7 lines 33-38, Col. 12 lines 57-67, Col. 14 lines 41-50. Nakatsuyama teaches that the receiver can be in low-power mode when not receiving or processing program data. It is inherent that in low-power mode some circuitry used to receive and process program data is powered off. It is inherent that the receiver must power on this circuitry to receive and process program data. The receiver powers on this circuitry based on received tuning data, which is contained in the index signal, which contains information regarding when program data is to be received. The parts of the Tuning System, Demodulator, and Logic Unit that are electronically coupled to the Antenna (Input Terminal) that receive index signal (first selected signal) and

power on circuitry necessary to receive and process program data in response to tuning data are the wake-up sensor).

Nakatsuyama differs from the claimed invention in that does not disclose a wake-up switch having a wake-up-switch input terminal coupled to the power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal.

In the same field of endeavor Kawaguchi teaches a digital TV broadcast system having a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal (See Fig. 1 Switch 231 Power Supply 230 and Col. 4 lines 43-48). It would have been obvious to one of ordinary skill in the art to modify Nakatsuyama with Kawaguchi such that Nakatsuyama included a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the

power-supply output terminal to the wake-up switch output terminal as taught by Kawaguchi to provide an efficient way to power up and power down the electronic circuitry associated with receiving program information (See Kawaguchi Col. 1 lines 49-53).

The combination of Nakatsuyama and Kawaguchi fails to disclose the use of a wake up signal in direct response to a first selected signal.

Miner discloses a cable system in which a remote interface unit runs in a low power standby mode and a high power active mode, in response to a wake up command received via a downstream channel, the RIU transitions from a standby mode to an active state in order to receive user or control information over a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kawaguchi to utilize the transmission scheme and wake up commands of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26).

Regarding claim 2, Nakatsuyama and Kawaguchi teaches the wake-up sensor further including a second tuner tuned to a carrier frequency associated with the first selected signal (See Nakatsuyama Col. 8 lines 21-22 and Col. 12 lines 57-66 One tuner is tuned to a channel to receive index data (first selected signal)).

Regarding claim 4, Nakatsuyama and Kawaguchi teaches wherein the tuner includes a power terminal coupled to the wake-up-switch output terminal (See Kawaguchi Fig. 1 Switch 231, Received Signal Processor 211, Tuner 213 and Col. 4 lines 1-3, 43-48 The Received Signal Processor which comprises the Tuner is connected to the wake-up switch output terminal).

Regarding claim 5, the modified Nakatsuyama teaches a receiver further comprising a display capable of indicating a power-on condition for the receiver (See Nakatsuyama Fig. 6 Display system 260 and Col. 13 lines 9-21 It is well known in the art that conventional display systems are capable of indicating their power condition i.e. whether they are off or on). Nakatsuyama fails to disclose where the display has a power input terminal connected to the power supply via a second switch. Kawaguchi does teach the display has a power input terminal coupled to the power supply via a second switch (See Kawaguchi Fig. 1 Switch 232, Output portion 212, Video and Audio Output Devices 218 and Col. 4 lines 8-12, 43-48). It would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama with Kawaguchi so that Nakatsuyama's display has a power input terminal connected to the power supply via a second switch. The motivation for a second switch would have been the ability to power the display system independent of the other components.

Regarding claim 6, the modified Nakatsuyama teaches wherein power is independently delivered to the display system and the program receiving circuitry, it would have been obvious that the display does not indicate a power-on condition in response to the wake-up signal, since the wake-up signal only powers on the receiving circuitry and thus the display system would remain off and indicate such (See Kawaguchi Fig. 1 Switch 231, 232, and Col. 4 lines 38-59).

Regarding claim 7, the modified Nakatsuyama discussed in regards to claim 1, teaches a receiver further comprising a processor having a processor power terminal coupled to the wake-up-switch output terminal (See Kawaguchi Fig. 1 received signal processor 211 and Col. 4 lines 43-48).

Regarding claim 8, Nakatsuyama teaches a broadcast communication network comprising: broadcast head-end adapted to broadcast a plurality of signals about a corresponding plurality of carrier frequencies (See Fig. 6 and Col 2 lines 1-30), the signals including an occasional wake-up instruction (See Col. 7 lines 32-49 and Col. 12 lines 15-18 Index signal is used to wake-up receiving and processing circuitry); a plurality of receivers adapted to receive the plurality of signals (See Col. 4 lines 12-15 each end user's receiver), each receiver including: a power supply having a power-supply output terminal (See Fig. 6 Power System 276 and Col. 13 lines 45-50); and a broadcast interface circuit including: an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a

selected carrier frequency (See Fig. 6 Tuning system 252 and antenna 253 and Col. 12 lines 60-63. It is inherent that program data signals received by the antenna and the tuner are modulated about a selected carrier frequency); a wake-up sensor having a sensor input terminal coupled to the interface circuit input terminal and a wake-up-sensor output terminal, wherein the wake-up sensor produces a wake-up signal on the wake-up-sensor output terminal directly in response to receiving a first selected signal (See Fig. 6, Tuning System 252, Logic Unit 250, Antenna 253, and Demodulator 254 and Col. 2 lines 60-65, Col. 7 lines 33-38, Col. 12 lines 57-67, Col. 14 lines 41-50. Nakatsuyama teaches that the receiver can be in low-power mode when not receiving or processing program data. It is inherent that in low-power mode some circuitry used to receive and process program data is powered off. It is inherent that the receiver must power on this circuitry to receive and process program data. The receiver powers on this circuitry based on received tuning data, which is contained in the index signal, which contains information regarding when program data is to be received. The parts of the Tuning System, Demodulator, and Logic Unit that are electronically coupled to the Antenna (Input Terminal) that receive index signal (first selected signal) and power on circuitry necessary to receive and process program data in response to tuning data are the wake-up sensor).

Nakatsuyama does not specifically teach a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in

direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal. In the same field of endeavor Kawaguchi teaches a digital TV broadcast system having a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal (See Fig. 1 Switch 231 Power Supply 230 and Col. 4 lines 43-48). Thus, it would have been obvious to one of ordinary skill in the art to modify Nakatsuyama with Kawaguchi such that Nakatsuyama included a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal as taught by Kawaguchi to provide an efficient way to power up and power down the electronic circuitry associated with receiving program information (See Kawaguchi Col. 1 lines 49-53).

The combination of Nakatsuyama and Kawaguchi fails to disclose the use of a wake up signal in direct response to a first selected signal.

Miner discloses a cable system in which a remote interface unit runs in a low power standby mode and a high power active mode, in response to a wake up

command received via a downstream channel, the RIU transitions from a standby mode to an active state in order to receive user or control information over a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kawaguchi to utilize the transmission scheme and wake up commands of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26).

Regarding claim 9, the modified Nakatsuyama teaches the wake-up sensor further including a second tuner tuned to a carrier frequency associated with the first selected signal (See Nakatsuyama Col. 8 lines 21-22 and Col. 12 lines 57-66).

Regarding claim 11, the modified Nakatsuyama teaches the interface circuit including a second tuner having a tuner input terminal coupled to the interface input terminal, wherein the second tuner is adapted to select one of the signals and provide the selected signal on a tuner output terminal (See Nakatsuyama, Fig. 6 Antenna 253 and Tuner System 252 and Col. 12 lines 60-63; the electrical coupling is the input and output terminals);

Regarding claim **13**, the modified Nakatsuyama teaches wherein the second tuner includes a power terminal coupled to the wake-up-switch output terminal (See Kawaguchi Fig. 1 Switch 231, Received Signal Processor 211, Tuner 213 and Col. 4 lines 1-3, 43-48 The Received Signal Processor which comprises the Tuner is connected to the wake-up switch output terminal).

Regarding claim **14**, the modified Nakatsuyama teaches a receiver further comprising a display capable of indicating a power-on condition for the receiver (See Nakatsuyama Fig. 6 Display system 260 and Col. 13 lines 9-21. It is inherent that conventional display systems are capable of indicating a power condition i.e. whether they are off or on). Nakatsuyama fails to disclose where the display has a power input terminal connected to the power supply via a second switch. Kawaguchi does teach the display (Fig.1, Video/Audio Output Device 218) has a power input terminal coupled to the power supply (230) via a second switch. (See Kawaguchi Fig. 1 Switch 232 and 212 Output portion). It would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama with Kawaguchi so that Nakatsuyama's display had a power input terminal connected to the power supply via a second switch. The motivation for a second switch would have been the ability to power the display system independent of the other components.

Regarding claim **15**, in the modified Nakatsuyama where power is independently delivered to the display system and the program receiving circuitry, it would have been

obvious that the display does not indicate a power-on condition in response to the wake-up signal, since the wake-up signal only powers on the receiving circuitry and thus the display system would remain off and indicate such (See Kawaguchi Fig. 1 Switch 231, 232, and Col. 4 lines 38-59).

3. Claims **16** and **18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,271,893 to Kawaguchi et al. in view of U.S. Patent 6,054,981 to Kimoto et al and U.S. Patent 6,690,0655 to Miner.

Regarding claim **16**, Kawaguchi teaches a method of reducing power usage in a broadcast receiver (See Col. 8 lines 2-5), the method comprising: monitoring, in a standby mode (See Col. 4 lines 38-43 when only the controller, I/O devices and the IF are powered, the receiver is in standby mode), a user-input device for a power-on instruction (See Col. 4 lines 24-34 I/O devices 227, it is inherent that controlling the digital receiver would include a powering-on instruction); monitoring the user-input device for a power-off instruction (See Col. 4 lines 24-34 I/O devices 227, it is inherent that controlling the digital receiver would include a powering-off instruction); and monitoring, with the receiver in the standby condition, a broadcast communication channel for a wake-up instruction (See Fig. 1 Second transmission media 5, Communication IF 228, Switch 231 Col. 4 lines 34-59 and Fig. 9 Step 444 Turn on the switch 231 and Col. 8 lines 25-30 turning on the switch 231 wakes-up the receiver) and

providing power to a first portion including a control processor of the receiver in direct response to receiving the wake-up instruction (See Fig. 9 Col. 8 lines 25-33).

Kawaguchi does not specifically disclose indicating a power-on condition for the receiver in response to the power-on instruction or indicating a standby condition for the receiver in response to the power-off instruction or indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction, nor providing power to a first portion including a control processor. However, Kawaguchi's does teach an indicator (See Col. 7 lines 37-40) and indicating various power modes for an electronic device is well known in the art as taught in Kimoto (See Fig 3. and Col. 4 lines 37-42).

It would have been obvious to one of ordinary skill in the art to modify Kawaguchi with Kimoto to indicate a power-on condition for the receiver in response to the power-on instruction or indicate a standby condition for the receiver in response to the power-off instruction, or indicate a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction, as well as indicating the appropriate power mode of the receiver at any given time during the receiver's operation. The motivation for such a modification would have been so that the various power modes could be displayed.

Miner discloses that in response to a wakeup command, a receiver goes into a full power mode in order to receive maintenance messages , establish resynchronization, and status messages via an active mode processor 407 (column 11, lines 2-23column 13, line 47-column 14, line 37, figures 4/7) the wake up message is

received via a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kimoto to utilize the transmission scheme and wake up commands to wake up the control processor of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26).

Regarding claim 18, the modified Kawaguchi teaches upon receipt of a power-on instruction in the standby condition providing power to the first portion and a second portion of the receiver (See Col. 4 lines 58-59 when both switches are closed first portion discussed with regards to claim 17 and output portion 212 are powered) and indicating the power-on condition (See discussion regarding claim 16).

Regarding claim 19, the modified Kawaguchi further teaches indicating a power-on includes providing a video signal to a video display device (See Col. 4 line 8-12 It is inherent that a video signal is provided to a video display device in response to a power-on instruction).

Regarding claim 20, the modified Kawaguchi further teaches a user input device (See Fig. 1 I/O devices 227 and Col. 4 lines 24-33). Kawaguchi and Kimoto do not

explicitly state that the user interface device comprises an infrared receiver. The examiner takes Official Notice that a user interface device comprising an infrared receiver is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify Kawaguchi, Kimoto and Miner so that its interface device comprises an infrared receiver. The motivation for such a modification would have been the ability to control the receiver remotely.

4. Claims 3, 10, 12 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,271,893 to Kawaguchi et al. in view of U.S. Patent 6,054,981, and further in view of U.S. Patent publication 2002/0073423 to Krakirian.

Regarding claims 3 and 10, Nakatsuyama as modified by Kawaguchi and Miner teaches the broadcast signals are already digitized when the receiver receives them (See Abstract). Nakatsuyama does not include a digitizer in his receiver. However, analog broadcast systems with receivers that include analog tuners and digitizers where the digitizer is coupled between the tuner and an output that requires a digital input are well known in the art as disclosed in Krakirian (See Fig. 1 A/D Converter 16 and Paragraph 31).

In light of the teaching from Krakirian, it would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama, Kawaguchi and Miner such that it includes a digitizer coupled between the tuner and the wake-up-switch control. The

motivation of such a modification would have been having a receiver capable of receiving an analog signal that can communicate with digital circuitry.

Regarding claim **12**, Nakatsuyama as modified by Kawaguchi teaches a processor (See Fig. 6 Logic Unit 250 and Col. 12 57-60). Nakatsuyama teaches the broadcast signals are already digitized when the receiver receives them (See Abstract). Nakatsuyama does not include a digitizer in his receiver. However, analog broadcast systems with receivers that include analog tuners and digitizers where the digitizer is coupled between the tuner and a processor well known in the art as disclosed in Krakirian (See Fig. 1 16 A/D converter and Paragraphs 30 and 31). In light of the teaching in Krakirian, it would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama, Kawaguchi and Miner such that it includes a digitizer coupled between the tuner and the processor. The motivation of such a modification would have been having a receiver capable of receiving an analog signal that can communicate with digital circuitry.

5. Claims **21 and 23**, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,271,893 to Kawaguchi in view of U.S. Patent 6,990,655 to Miner.

Regarding claim **21**, Kawaguchi teaches a broadcast receiver (See Fig. 1 TV receiver 4) comprising: means for monitoring a user-input device for a power-on instruction (See Fig. 1 I/O Devices 227, Controller 225, Switches 231 and 232, and Col.

4 lines 24-58 The Controller monitors the I/O devices for user command to execute. The Controller executes powering on the receiver by closing Switches 231 and 232. It is inherent that the I/O device must include power-on instructions so that the user can power-on the receiver to view channels); display means for indicating a power-on condition for the receiver in response to the power-on instruction (See Fig. 1 Switches 231 and 232, Video & Audio Output Devices 218 and Col. 4 lines 1-12, 38-59. Power-on condition is when both switches are closed. Power off condition is when switch 232 is open. It is inherent that the Video Output Device will display an image when powered-on.); means for monitoring the user-input device for a power-off instruction (See Fig. 1 I/O Devices 227, Controller 225, Switches 231 and 232, and Col. 4 lines 24-58. The Controller monitors the I/O devices for user command to execute. The Controller powers off the receiver by opening Switches 231 and 232. It is inherent I/O device must include power-off instructions so that the user can power-off the receiver); means responsive to the power-off instruction for indicating a power-off condition for the receiver (See Fig. 1 Video & Audio Output devices 218 and Col. 4 lines 1-12. It is inherent that Video Output Device will not display an image when powered-off); and means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition, wherein the means for monitoring the broadcast communication channel includes a power switch for providing power to a control processor in direct response to the wake-up instruction (See Fig. 1 Communication IF 228, Controller 225, Signal processor 211, and Switches 231 and 232 Fig. 9 Col. 4 lines 24-58, Col. 8 lines 25-33 The Controller monitors the Communication IF for interrupt.

Interrupt (Wake-up) instruction closes Switch 231, which provides power to Processor 211).

Kawaguchi fails to disclose providing power to a control processor in response to the wake up instruction.

Miner discloses that in response to a wakeup command, a receiver goes into a full power mode in order to receive maintenance messages , establish resynchronization, and status messages via an active mode processor 407 (column 11, lines 2-23column 13, line 47-column 14, line 37, figures 4/7) the wake up message is received via a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kimoto to utilize the transmission scheme and wake up commands to wake up the control processor of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26).

Regarding claim 23, Kawaguchi further teaches wherein the display means indicates the power-off condition when the power switch provides power to the processor in response to the wake-up instruction (See Kawaguchi Fig. 1 Switch 231, 232, Video & Audio Output Devices 218, and Col. 4 lines 38-59. Wake-up condition only closes switch 231, thus Processor 211 is powered on and Video & Audio Output

Devices are still powered off. Video Output Device not displaying an image is powered off).

(10) Response to Argument

Arguments with respect to claims 1, 2, 4-9, 11 and 13-15:

Appellant argues that neither Nakatsuyama, Kawaguchi, Miner, nor their combination teach a wakeup sensor which sends a wake-up signal to a wakeup switch in direct response to a first selected signal. Nakatsuyama teaches operating in a low power mode and earlier sends time information, via index data which allows the receiver to operate in a lower power mode until the appropriate time. Nakatsuyama fails to teach a wakeup sensor which sends a wake-up signal to a wakeup switch in direct response to a first selected signal. Kawaguchi teaches a broadcasting system which utilizes an alternation time list and update time list, at the update time, the switch 231 is turned on. Kawaguchi fails to teach a wakeup sensor which sends a wake-up signal to a wakeup switch in direct response to a first selected signal and does not teach monitoring a broadcast communication channel for a wakeup instruction with the receiver in the power-off condition. Miner teaches a low-powered communication system which is a cable or wireless modem and does not teach a broadcast receiver with tuning capabilities. The remote interface operates in a lower-power standby mode and a high power active mode. A wakeup command is transmitted on a secondary downstream channel which instructs the remote interface unit to transition from a standby commando active mode in order to receive user or control information. Miner fails to teach an

update sensor which operates a wakeup switch in direct response to a wakeup instruction within a broadcast receiver. (pages 9-11).

The Examiner respectfully disagrees and notes that a Prima Facie case of obviousness was met. As will be set forth below, there was

1) suggestion or motivation found in the receives or in the knowledge available to one of ordinary skill in the art to modify the reference or combine reference teachings

2) the electrical arts are predictable arts and no undue experimentation would be required to make the combination, nor has applicant specifically argued reasonable expectation of success and

3) the prior art of record in combination teaches and suggests all claim limitations.

Nakatsuyama is relied upon to teach each element of the invention except those elements which relate to the wakeup sensor switch and receiving an external wakeup signal. Nakatsuyama teaches a wakeup sensor having a wakeup sensor input terminal coupled to the interface circuit input terminal and sensor output terminal wherein the sensor being adapted to produce a wakeup signal on the sensor output terminal in response to a first selected signal (See Fig. 6, Tuning System 252, Logic Unit 250, Antenna 253, and Demodulator 254 and Col. 2 lines 60-65, Col. 7 lines 33-38, Col. 12 lines 57-67, Col. 14 lines 41-50. Nakatsuyama teaches that the receiver can be in low-power mode when not receiving or processing program data. It is inherent that in low-power mode some circuitry used to receive and process program data is powered off. It

is inherent that the receiver must power on this circuitry to receive and process program data. The receiver powers on this circuitry based on received tuning data, which is contained in the index signal, which contains information regarding when program data is to be received. The parts of the Tuning System, Demodulator, and Logic Unit that are electronically coupled to the Antenna (Input Terminal) that receive index signal (first selected signal) and power on circuitry necessary to receive and process program data in response to tuning data are the wake-up sensor).

While Nakatsuyama inherently contains some circuitry to switch between the different power modes, such circuitry is not explicitly taught. Further, Nakatsuyama differs from the claimed invention in that does not disclose a wake-up switch having a wake-up-switch input terminal coupled to the power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal.

In the same field of endeavor Kawaguchi teaches a digital TV broadcast system having a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal (See Fig. 1 Switch 231 Power Supply 230 and Col. 4 lines 43-48

). It would have been obvious to one of ordinary skill in the art to modify Nakatsuyama with Kawaguchi such that Nakatsuyama included a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal as taught by Kawaguchi to provide an efficient way to power up and power down the electronic circuitry associated with receiving program information (See Kawaguchi Col. 1 lines 49-53).

The motivation to combine is that Kawaguchi teaches the use of a receiver that ensures the reception of program information and any irregular program while saving the power consumption in the receiver (column 1, lines 49-53).

The combination of Nakatsuyama and Kawaguchi teaches a wakeup switch having a wakeup switch input terminal coupled to the power-supply output terminal, a wakeup switch output terminal, and a wakeup switch control terminal coupled to the wakeup sensor output terminal to receive the wakeup signal and the wakeup switch is closed in response to a signal which provides power from the power supply output terminal to the wakeup switch output terminal.

What the combination specifically fails to teach is the use of a wake up signal in direct response to a first selected signal.

Miner discloses a cable system in which a remote interface unit runs in a low power standby mode and a high power active mode, in response to a wake up command received via a downstream channel, the RIU transitions from a standby mode to an active state in order to receive user or control information over a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Miner discloses transmitting data over a wide variety of network links such as telephone, power line, wireless link, Ethernet, LAN, WAN, FDDI as well as cable (column 4, line 59-column 5, line 14). Further the distribution network utilized in Miner preferably is any data, wireless, or wireline network that supports the transfer of voice, data, and or video packets (column 5, lines 31-35).

Likewise, Miner is not directly solely to a cable modem as argued by applicant. Miner explicitly teaches that the RIU 209, may alternatively comprise a set top box or any communication device which is always powered on (column 5, lines 36-42). As Miner teaches the use of a set top box, as well as broadcast transmission media (Ethernet, cable networks, LAN/WAN etc) Miner teaches the use of a broadcast receiver.

Further, one skilled in the art at the time of invention would recognize that advantages that one way to reduce the amount of power consumed by a device would be to reduce the transmission rate of a downstream channel through the use of low order modulation schemes such as QPSK or frequency shift keying and thereby reduce the power required by each receiving device. While some of the power savings is

realized as a result of reduced processing power required to handle the lower data rate, the bulk of the power savings is realized by the requirement that higher modulation schemes require higher performing lower noise RF components which generally require more power (Miner, column 3, lines 8-18, column 6, lines 17-26)

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kawaguchi to utilize the transmission scheme and wake up commands of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26) and increase power savings through the use of FSK and QPSK modulation requiring less processing power and not requiring high powered components.

The combination of Nakatsuyama, Kawaguchi and Miner teaches a wake up signal in direct response to a first selected signal. It is the combination of features which teach each and every element of the claims.

Therefore, the combination of Nakatsuyama, Kawaguchi and Miner is appropriate and teaches each and every element of the claims.

Applicant argues that there is no motivation to combine the references, in particular motivation to combine the broadcasting systems of Nakatsuyama and Kawaguchi with the cable modem system of Miner and any such combination is due to impermissible hindsight (pages 11-13).

The Examiner respectfully disagrees.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to Appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Nakatsuyama is relied upon to teach each element of the invention except those elements which relate to the wakeup sensor switch and receiving an external wakeup signal. In an analogous art, Kawaguchi teaches the use of a power switch coupled to the sensor. The motivation to combine is that Kawaguchi teaches the use of a receiver that ensures the reception of program information and any irregular program while saving the power consumption

in the receiver (column 1, lines 49-53). Further, the Miner reference is relied upon to teach receipt of an external power on signal, and provides the benefit of transmitting control information through a secondary downstream bandwidth thus not affecting the bandwidth of the primary stream and increase power savings through the use of FSK and QPSK modulation requiring less processing power and not requiring high powered components.

Further, Nakatsuyama and Miner share a common classification, class 455.

Additionally, Nakatsuyama, Miner and Kawaguchi all teach the use of broadcast receivers. In Miner at column 14, lines 38-61, Miner teaches that DOCSIS modems may be configured to receive broadcast messages. Further Applicant admits on page 2 of the response that Nakatsuyama and Kawaguchi receive broadcast messages. As discussed above, Miner does not merely restrict teaching DOCSIS modems.

Miner discloses transmitting data over a wide variety of network links such as telephone, power line, wireless link, Ethernet, LAN, WAN, FDDI as well as cable (column 4, line 59-column 5, line 14). Further the distribution network utilized in Miner preferably is any data, wireless, or wireline network that supports the transfer of voice, data, and or video packets (column 5, lines 31-35).

Likewise, Miner is not directly solely to a cable modem as argued by applicant. Miner explicitly teaches that the RIU 209, may alternatively comprise a set top box or any communication device which is always powered on (column 5, lines 36-42). As Miner teaches the use of a set top box, as well as broadcast transmission media

(Ethernet, cable networks, LAN/WAN etc) Miner teaches the use of a broadcast receiver.

As all three references are directed to the operation of broadcast receivers (Nakatsuyama, see abstract, Kawaguchi, see abstract, Miner, see column 5, lines 38-40), the three references are analogous art, and a combination between 3 broadcast systems is proposed. Further, motivation to combine, from the references was provided, there is a reasonable expectation of success requiring no undue experimentation, and the prior art in combination teaches and suggests all claim limitations.

Therefore, the combination of Nakatsuyama, Kawaguchi and Miner is appropriate and teaches each and every element of the claims.

Applicant argues that even if all the references were properly combined, none of the references individually teach a wakeup sensor which sends a wakeup signal to a wakeup switch in direct response to a first selected signal. Logically if none of the references individually teach this element, then the improper combination of the references cannot teach the element. (page 15)

The Examiner respectfully disagrees. If a single reference taught the above limitation, a 102 rejection would have been appropriate, and there would have been no need to combine the secondary references of record. As disclosed above, Nakatsuyama teaches a wakeup sensor which transmits a wakeup signal which causes

a switch from a low to high power mode. Nakatsuyama inherently contains some circuitry to switch power modes otherwise the receiver would be unable to switch modes, but fails to explicitly teach the circuitry or performing the operation in direct response. Kawaguchi is relied upon to teach the low/high power circuit connections.

The motivation to combine is that Kawaguchi teaches the use of a receiver that ensures the reception of program information and any irregular program while saving the power consumption in the receiver (column 1, lines 49-53). However, the combination fails to perform the wakeup action in direct response. Miner reference is relied upon to teach receipt of an external power on signal, and provides the benefit of transmitting control information through a secondary downstream bandwidth thus not affecting the bandwidth of the primary stream and increase power savings through the use of FSK and QPSK modulation requiring less processing power and not requiring high powered components. Thus it is the combination of features which would modify the wakeup sensor of Nakatsuyama, to include the circuit connections as required by the claim and taught by Kawaguchi, and to perform the required action in direct response as taught by Miner.

Thus it is the combination of teachings which meet each and every element of the claims.

Arguments with respect to claim 16:

Applicant makes substantially similar arguments as in the above section and further argues that Kawaguchi does not teach a power mode in which the controller is powered off. (pages 18-19)

The Examiner has addressed the above arguments in the previous section. Further, Kawaguchi discloses a user-input device for a power-on instruction (See Col. 4 lines 24-34 I/O devices 227, it is inherent that controlling the digital receiver would include a powering-on instruction); monitoring the user-input device for a power-off instruction (See Col. 4 lines 24-34 I/O devices 227, it is inherent that controlling the digital receiver would include a powering-off instruction); and monitoring, with the receiver in the standby condition, a broadcast communication channel for a wake-up instruction (See Fig. 1 Second transmission media 5, Communication IF 228, Switch 231 Col. 4 lines 34-59 and Fig. 9 Step 444 Turn on the switch 231 and Col. 8 lines 25-30 turning on the switch 231 wakes-up the receiver) and providing power to a first portion including a control processor of the receiver in direct response to receiving the wake-up instruction (See Fig. 9 Col. 8 lines 25-33).

Kawaguchi does not specifically disclose indicating a power-on condition for the receiver in response to the power-on instruction or indicating a standby condition for the receiver in response to the power-off instruction or indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction, nor providing power to a first portion including a control processor. However, Kawaguchi's does teach an indicator (See Col. 7 lines 37-40) and indicating various power modes for an electronic device is well known in the art as taught in Kimoto (See Fig 3. and Col. 4 lines 37-42).

It would have been obvious to one of ordinary skill in the art to modify Kawaguchi with Kimoto to indicate a power-on condition for the receiver in response to the power-

on instruction or indicate a standby condition for the receiver in response to the power-off instruction, or indicate a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction, as well as indicating the appropriate power mode of the receiver at any given time during the receiver's operation. The motivation for such a modification would have been so that the various power modes could be displayed.

Therefore, the combination of Kawaguchi, Kimoto and Miner teach each and every element of the claims

Arguments with respect to claims 3, 10, and 12:

Appellant argues that claims 3, 10 and 12 are allowable for being dependant on allowable base claims (page 21).

The Examiner has addressed the independent claims upon which claims 3, 10 and 12 depend in the above section.

Arguments with respect to claims 18-20:

Appellant argues that claims 18-20 are allowable for being dependant on claim 16, and that Kawaguchi does not teach a means for monitoring a broadcast communication channel for a wakeup instruction, and that Miner is a cable modem or wireless modem and does not teach a means for monitoring the broadcast channel

which includes a power switch for providing power to a control processor in direct response to the wakeup instruction (pages 22-23).

The Examiner respectfully disagrees. As discussed above, Kawaguchi discloses the switching circuitry coupled between the power supply and the controller, Miner teaches monitoring the broadcast communication channel, and the direct response features as required by the claims. Further as discussed above, Miner may be a broadcast receiver. Thus it is the combination of Kawaguchi and Miner which teach each and every element of the claims.

Arguments with respect to claims 21 and 23:

Applicant makes substantially similar arguments with respect to claims 21 and 23 (pages 24-25).

The Examiner has addressed the above arguments in the previous sections, therefore each and every element of the claims is addressed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,



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